C. Perley,

Steering Apps.

No. 37,768. Patented Feb. 24. 1863.

Fig 1.

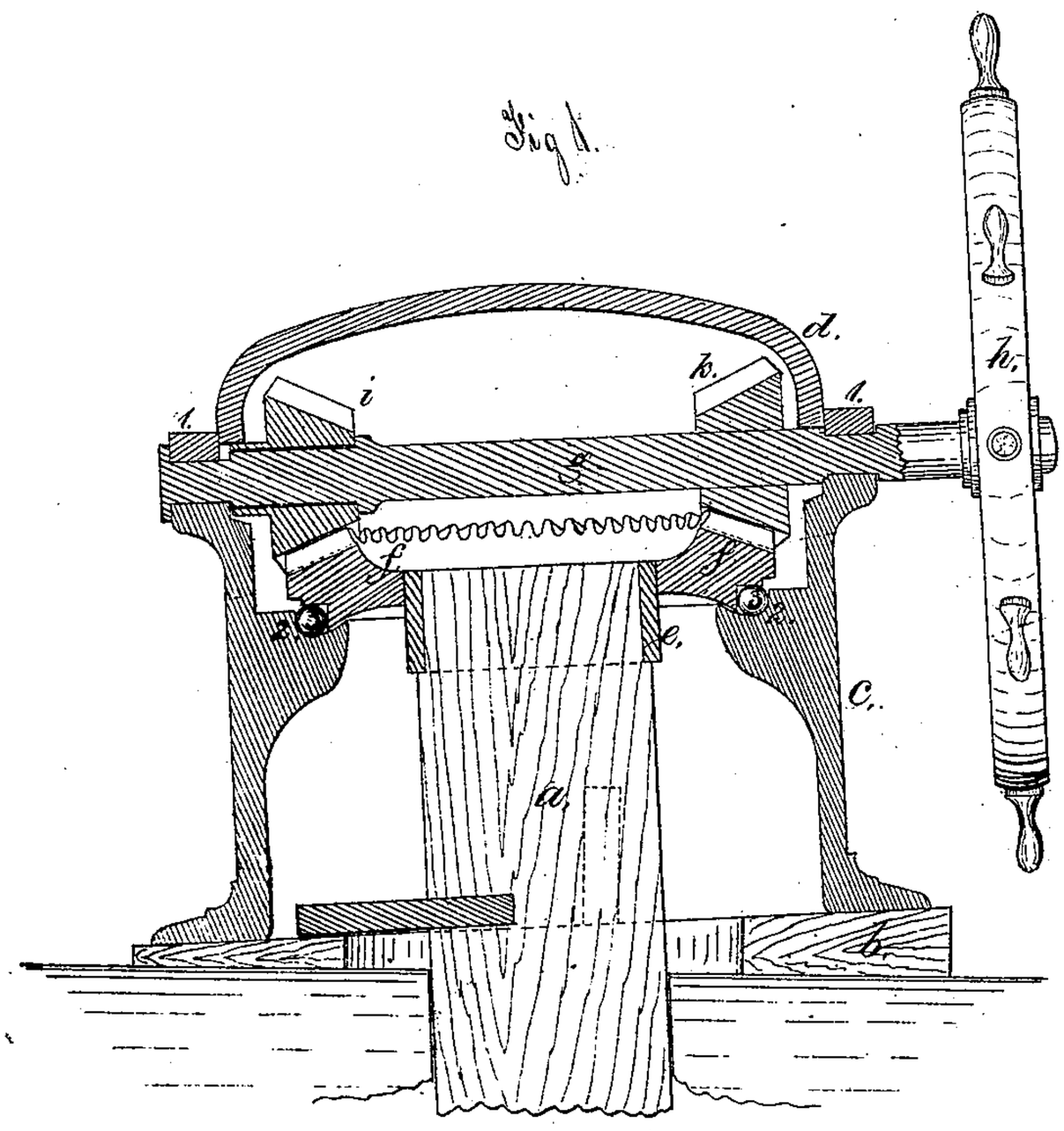
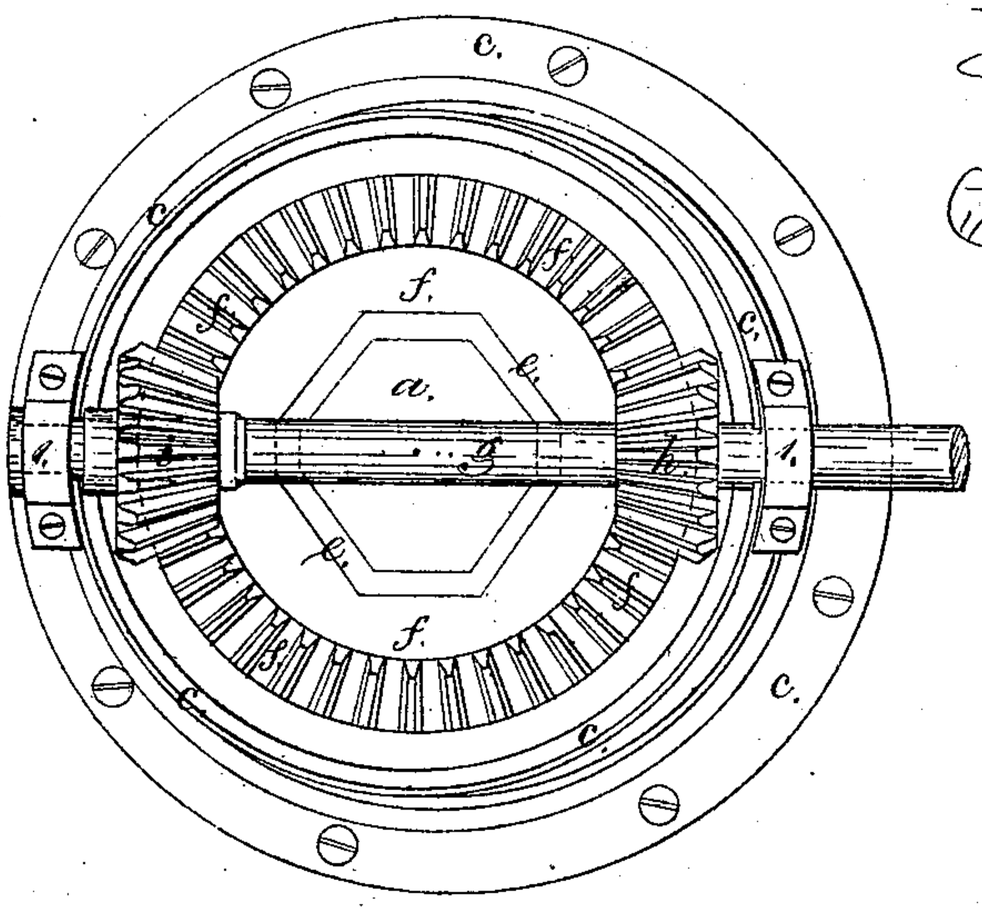


Fig. 2.



Witnesses

Samuel W. Sewall

Thos Geo. Harold

Charles Perley

UNITED STATES PATENT OFFICE.

CHARLES PERLEY, OF NEW YORK, N. Y.

IMPROVED STEERING APPARATUS.

Specification forming part of Letters Patent No. **37,768**, dated February 24, 1863.

To all whom it may concern:

Be it known that I, CHARLES PERLEY, of the city and State of New York, have invented, made, and applied to use a certain new and useful Improvement in Steering Apparatus for Vessels; and I do hereby declare that the following is a full, clear, and exact description of the nature of my said invention, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a vertical section of my improvement, and Fig. 2 is a plan of the same with the inclosing-cap removed.

Similar marks of reference denote the same parts.

It is well known that in vessels there is considerable motion and working, particularly about the stern, when in a heavy sea. This motion is principally in a vertical direction or endwise of the rudder-stock, because there is no chance for play or springing in the rudder itself in this direction. The result often is that when a vessel is laboring heavily in a sea some of the parts of the steering apparatus give out or break just when most needed. Beside this, nearly all the steering devices heretofore made require considerable fitting both to the rudder-stock and also to the vessel, and are not easily removed or applied to a new rudder.

My said invention relates to a horizontal wheel running upon balls, and receiving through it the upper end of the rudder-stock, which stock is provided with a polygonal metallic band entering an opening of corresponding size and shape in the said wheel, however being sufficiently free to allow the stock to slide endwise through said wheel as the parts of the vessel work. I also make use of a cylinder set upon the deck or upon a chock in the proper position, which not only receives and sustains the aforesaid wheel, but also carries the shaft of the steering apparatus. Thereby said steering apparatus is rendered very compact, and is complete in itself, only requiring to be set over the rudder-stock and secured to the deck or support in its place.

In the drawings, *a* is the stock or head of the rudder, passing up through the deck.

b is an inclined chock or other support to incline the whole apparatus so as to correspond with the inclination of the rudder. *c* is a cylinder or case containing the apparatus and secured to the deck by bolts. *d* is a movable cover or cap inclosing the gearing and excluding water, &c.

e is a metallic polygonal band attached permanently to the rudder-head.

f is a gear-wheel with an opening receiving the band *e* sufficiently loosely to allow of end play to the rudder-stock as the vessel works in a sea. This wheel *f* is supported by and rolls on the balls 3 in the groove 2 of the case *c*. It will, however, be seen that these balls have nothing to do with sustaining the weight of the rudder. They only carry the weight of the wheel *f* and keep it in position centrally, said wheel having no axis.

g is a cross-shaft set in journals 1 1 on the upper edges of the case *c*, and *h* is the steering-wheel on the end of the shaft *g*. *k* is a bevel-pinion giving rotation to the wheel *f* and moving the rudder in either direction. *i* is a loose bevel-pinion, also taking the wheel *f*, but only serving to hold the said wheel down to place.

The simplicity, strength, and compactness of my apparatus will be apparent. The case *c* may be made of any desired or ornamental shape.

I do not claim, broadly, a cylinder or case of metal over the rudder-stock; but

What I claim, and desire to secure by Letters Patent, is—

1. The arrangement of the horizontal shaft *g*, pinion *k*, and wheel *f* within and sustained by the casing *c*, as and for the purposes set forth.

2. The horizontal wheel *f*, in combination with the rudder-stock, when fitted substantially as specified, so that the rudder is free to work endwise without disturbing or altering the position of the wheel *f*, as set forth.

In witness whereof I have hereunto set my signature this 29th day of July, 1861.

CHARLES PERLEY.

Witnesses:

LEMUEL W. SERRELL,

THOS. GEO. HAROLD.